

Title: Unlikely intersections for algebraic curves in positive characteristic.

Abstract: In the last twelve years there has been much study of what happens when an algebraic curve in n -space is intersected with two multiplicative relations

$$x_1^{a_1} \cdots x_n^{a_n} = x_1^{b_1} \cdots x_n^{b_n} = 1 \quad (\times)$$

for $(a_1, \dots, a_n), (b_1, \dots, b_n)$ linearly independent in \mathbf{Z}^n . Usually the intersection with the union of all (\times) is at most finite, at least in zero characteristic. Recently there have been a number of advances in positive characteristic, even for additive relations

$$\alpha_1 x_1 + \cdots + \alpha_n x_n = \beta_1 x_1 + \cdots + \beta_n x_n = 0 \quad (+)$$

provided some extra structure of Drinfeld type is supplied. After briefly reviewing the zero characteristic situation, I will describe recent work, some with Dale Brownawell, for (\times) and for $(+)$ with Frobenius Modules and Carlitz Modules.